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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HARRIS, ALANA M	
ART UNIT	**PAPER NUMBER**
1642	

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/623,543	BRIDON ET AL.	
	Examiner	Art Unit	
	Alana M. Harris, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/30/01; 2/12/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of species SEQ ID NO: 8 in Paper received 25 November 2003 is acknowledged. The traversal is on the ground(s) that "...the Examiner would not have an undue burden in examining multiple species of the claimed invention". This is not found persuasive because the search of one sequence would not be the search of the other. Each sequence is distinct.

Moreover, Applicants have not amended the claim language of claims 17 and 18. In an effort to provide compact prosecution the Examiner is interpreting the claims as a method of making a medicament. The claims do not set forth method steps and is not in any statutory category of invention.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-21 are pending.

Claims 19-21 have been amended.

Claims 1-21 are examined on the merits.

Priority

3. This application appears to be 371 division of PCT/IB00/00763 filed May 17, 2000, which claims benefit of U.S. Provisional Application No. 60/134,406, filed May 17, 1999. However, the current status of the application is not set forth in the first line of the specification. Applicant is requested to amend the first line of the specification.

4. Applicants have requested the benefit of an earlier filing date from PCT/IB00/00763 filed May 17, 2000 and U.S. Provisional document 60/134,406 filed May 17, 1999. The Examiner has reviewed these two documents. The limitations of all the claims are not supported in all of the priority documents. Claims 19-21 are afforded the effective filing date (November 5, 2000) of the instant application because SEQ ID NO: 17-38 are not of record in either priority document. Claims 1-4, 7-10, 13 and 14 are afforded the effective filing date of the provisional document, May 17, 1999. However, claims 5, 11, 12, 15 and 16 will be granted the priority date of the PCT document, May 17, 2000 because the elected species, SEQ ID NO: 8, as well as the non-elected species, SEQ ID NO: 1-7 and 9-16 were evidenced.

Claim Objections

5. Claims 2, 11 and 21 are objected to because of the following informalities:

(a) claim 2, line 1 contains the superfluous term "as";

(b) claim 11 does not have a period at the end of the sentence, hence it is not clear what other text is missing; and

(c) claim 21 ends with a semi-colon, hence it is not clear whether or not the claim is recited in its entirety. Correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-4, 7-10, 13, 14, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants broadly claim a modified antiangiogenic peptide, a composition comprising the said peptide a method of making a medicament comprising the said peptide for treatment of a subject with angiogenesis. The written description in this instant case only sets forth an antiangiogenic peptide, wherein said peptide is a kringle 5 peptide identified as SEQ ID NO: 8. The written description is not commensurate in scope with the claims drawn to all the variants, derivatives and amino acid combinations of the domain of kringle 5.

Vas-Cath Inc. V. Mahurkar, 19 USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117). The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (*See Vas-Cath* at page 1116).

Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see page 115).

With the exception of SEQ ID NO:2, the skilled artisan cannot envision the detailed structure of the encompassed polypeptides and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and a reference to a potential method of isolating it. The polypeptide itself is required. See *Fiers v. Revel*, 25 USPQ 2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Lts.*, 18 USPQ2d 1016.

Furthermore, In *The Reagents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that while Applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...'requires a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention".

Support for the antiangiogenic kringle 5 peptide, designated as SEQ ID NO: 8 is provided in the specification on page 9, line 25. At the time the application was filed

Applicants only had possession of the kringle 5 peptide designated as SEQ ID NO: 8. As the broad claims are written the language indicates that these claims are drawn to an entire genus. The specification does not evidence the possession of all the possible variant peptides, derivatives and fragments of kringle 5 or a modified antiangiogenic peptides that could or could not possibly inhibit angiogenesis, as well as their use in the methods of manufacture and treatment. There is insufficient to support the generic claims as provided by the Interim Written Description Guidelines published in the June 15, 1998 Federal Register at Volume 63, Number 114, pages 32639-32645.

The full breadth of the claims does not meet the written description provision of 35 U.S.C. 112, first paragraph.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1, 2 and 19-21 are vague and indefinite in the recitation "modified antiangiogenic peptide" and "modified kringle 5 peptide". It is not clear how these peptides are changed or mutated as implied by the term, modified. Accordingly, the metes and bounds cannot be determined.

b. The recitation "analog thereof" in claims 7 and 17 are vague and indefinite. It is not clear how the analog is similar to the derivative of the kringle 5 peptide. It is not

what properties, for example structural or functional should be same as the derivation. The metes and bounds cannot be determined.

c. Claims 7-10, 13, 17 and 18 are vague and indefinite in the recitation "derivative of kringle 5 peptide". It is not clear what amino acid residues of the kringle 5 peptide are recognized as a derivative. It is not clear from the claims or the specification what parameters encompass derivatives. Accordingly, the metes and bounds are unclear and in the absence of limitations specifying what is a derivative.

d. Claims 17 and 18 provides for the use of a composition for the manufacture of a medicament, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

e. Claim 17 is contains the term, manufacturer. The term should be replaced with the term, manufacture in order for the claim to contain the proper tense.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 17 and 18 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App.

1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

13. Claims 1-5, 7-11, 13-15, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/41824 (13 November 1997/ IDS reference AM on sheet 1 of 3, February 2001). WO document 97/41824 discloses Applicants' SEQ ID NO: 8, see page 43, Example 5, line 12 and attached database sheet. This disclosed amino acid is the same as Applicants' SEQ ID NO: 8 and is a modified antiangiogenic peptide

comprising a reactive group (succinimidyl or maleimido) which reacts with amino groups, hydroxyl groups, or thiol groups on blood components to form stable covalent bond and reactive with a thiol group on a blood protein, see page 21, lines 13-38. This disclosed kringle 5 peptide, as well as derivatives and analogs thereof are comprised in a composition and administered for the treatment of both primary and metastatic solid tumors and compounds of several organ systems, see page 19, line 28-page 25, line 16. The WO document also discloses methods of manufacturing the anticipated composition including a kringle 5 peptide and derivatives and analogs thereof, see page 13, line 1-page 15, line 36 and page 43, Example 5. Given the disclosed composition and methods are the same as that claimed these peptides are capable of reacting with blood proteins and a thiol group on human serum albumin to form a covalent bond and is a medicament extending the *in vivo* half-life of kringle 5 peptide in a patient.

14. Claims 1-5, 7-11, 13-15, 17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent number 6,057,122 (filed May 5, 1997/ IDS reference AD on sheet 2 of 3, February 2001). U.S. Patent number 6,057,122 teaches a kringle 5 peptide also known as a modified antiangiogenic peptide, see column 36, lines 26-30 and column 69, amino acid residues 83-93 of SEQ ID NO: 35. "Kringle 5 peptide fragments ...may be combined with pharmaceutically acceptable excipients or carriers to form therapeutic compositions" for the treatment of inhibition of angiogenic diseases, see Abstract; column 16, lines 46-column 17, line 57; column 19, lines 18-29; and column 20, line 63-column 21, line 5. Methods of manufacture of the disclosed modified

antiangiogenic peptides are set forth in column 18, lines 5-column, 21, line 37. Furthermore, the compounds of the disclosed invention may include a reactive group such as maleic acid or succinic acid, see column 18, lines 5-43. Given the disclosed composition and methods are the same as that claimed these peptides are capable of reacting with blood proteins and a thiol group on human serum albumin to form a covalent bond and is a medicament extending the *in vivo* half-life of kringle 5 peptide in a patient.

Double Patenting

15. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

16. Claims 1-16 and 19-21 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-16 and 19-21 of copending Application No. 09/657,431 (filed September 7, 2000). This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. Claims 17 and 18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 and 19-21 of copending Application No. 09/657,431 (filed September 7, 2000). Although the conflicting claims are not identical, they are not patentably distinct from each other because the modified antiangiogenic kringle 5 peptide identified as SEQ ID NO: 8 is the same in both applications, hence intrinsically the method of manufacture would be the same and the resulting composition would retain the same properties.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alana M. Harris, Ph.D. whose telephone number is (571)272-0831. The examiner can normally be reached between the hours of 7:00 am to 4:30 pm, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne "Bonnie" Eyler, Ph.D. can be reached on (571)272-0871. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALANA M. HARRIS, PH.D.
PRIMARY EXAMINER

Alana M. Harris, Ph.D.
22 February 2004